

Title (en)

WEAR PROTECTION LAYER FOR PISTON RINGS, CONTAINING WOLFRAM CARBIDE AND CHROMIUM CARBIDE

Title (de)

VERSCHLEISSCHUTZSCHICHT FÜR KOLBENRINGE ENTHALTEND WOLFRAMKARBID UND CHROMKARBID

Title (fr)

COUCHE D'USURE POUR SEGMENTS DE PISTON RENFERMANT DU CARBURE DE TUNGSTENE ET DU CARBURE DE CHROME

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Application

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Abstract (en)

[origin: WO0248422A1] The invention relates to a wear protection layer for piston rings in internal combustion engines, consisting essentially of chromium carbides, wolfram carbide, chromium and nickel. The wear protection layer is formed from a mixture of powders in which the first powder consists of at least the alloy components chromium carbide, chromium and nickel, in the form of an agglomerated and sintered powder, and which has not been subjected to any secondary heat treatment that would make the powder brittle, such as plasma refinement, the carbides in the powder having an average diameter of essentially not more than 3 um. A second powder, also in the form of an agglomerated and sintered powder, contains wolfram carbide and is applied to at least one peripheral surface of the piston rings by thermal injection, so that two distinctive coating areas are produced in the wear protection layer. A first area, predominantly rich in chromium, and a second area, mainly rich in wolfram carbide are formed.

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